Work Orde Wednesday, Nov	_											Page
Item ID: Revision ID: Item Name:	D212-664-10			Accept					Setup	Start Scop		
Start Date: Required Date: Reference:	11/17/2010 11/30/2010	Start Qty: 1.00 Req'd Qty: 1.00			Cust Item I Customer:	D:			10			318 1181 1881
Approvals:	Process Pla	nn:	Date:	Tooling: SPC (Y/N):		nte:			Run	Start Stop		
Sequence ID/ Work Center II	<b>)</b>	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp
Draw Nbr	Rev	ision Nbr										f
D212-664-141	Rev	, D										
100 Mori Seiki	:	MORI SEIKI CNC LAT	THE LARGE	0.00						,		
Mori Seiki CNC Lat	the Large	1-Fill tube 2-Turn firs 3-File dow	with sand & install plugs DT t side as per Folio FA113 n transition lines smooth.	· Az	er Folio FAII3						,	
110 		QC1- Inspect dimension  Memo	ns to dimension sheet	0.00				(				
Quality Control	\$25. \$25.	<b>`</b>	<b>,</b>	0.00	12/02						,	

Mori Seiki

MORI SEIKI CNC LATHE LARGE

.....

0.00

Mori Seiki Memo
Mori Seiki CNC Lathe Large 1-Turn

1-Turn second side as per Folio FA113

2-File down transition lines smooth.

3-Remove sand and plugs

5/ 10/12/02

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
_					-			
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Part No:	PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
Reso	olution:	Disposition:	QA: N/C Closed:	_ Date:

NCR:		WORK ORDER NON-CONFORMANCE (NCR)										
DATE 075		Description of NC		Corrective Action Section B	Verification	Approval	Approval					
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector				
10.12.06	Inp	Some O.D.'s overtolly a o.ous. oD new cuff under tol. by	10.1207	Acceptable. BENDING moments new cuff are neglisable			10.12.07					
		0.0091	431 442			1	95) 642					
					; ;							
								-				

HandFXtube

Hand Finishing Crosstubes

Memo



Page 2 Wednesday, November 17, 2010 10:25:30 A Item ID: D212-664-101TRN Accept Setup Start Revision ID: Stop Item Name: Crosstube Turning Detail Start Date: 11/17/2010 Start Otv: 1.00 **Cust Item ID: Required Date: 11/30/2010** Reg'd Oty: 1.00 **Customer:** Reference: Start Run **Approvals:** Process Plan: Date: Tooling: Date: Stop Date: \_\_\_\_\_ SPC (Y/N): Date: Sequence ID/ **Operation** Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. Work Center ID Description Code Otv **Run Hours** Otv Number Stamp 130 QC1- Inspect dimensions to dimension sheet 0.00 Memo **Ouality Control** 10/12/02 140 OC8- Inspect parts - second check 0.00 0.00 Memo **Ouality Control** 150 Crosstubes Chemical Conversion

W/O:		-	W	ORK ORDER CHANG	ES				t-
DATE	STEP	PRO	OCEDURE CHA	NGE	В	y	Date Qt	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	·	PAR #:	Fault Cate	egory:	_ NCR:	es N	o <b>DQA:</b> _	Date: _	•
	R	esolution:	Disposition	on:	_ QA: N/	C Clos	sed:	Date: _	
NCR:			WORK ORD	ER NON-CONFORM	ANCE (N	ICR)			
DATE	STEP	Description of NC			ion B		Verificatio	n Approval	Approval
DAIE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng		ign & Date	Section C	Chief Eng	QC Inspector
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#### Work Order ID 63861

Wednesday, November 17, 2010 10:25:30 A



Page 3

Item ID:

D212-664-101TRN

Accept

Setup Start

Stop



Revision ID:

Item Name:

Crosstube Turning Detail

Start Date:

11/17/2010

Start Otv: 1.00

**Required Date:** 11/30/2010

OC:

Req'd Qty: 1.00



Date:

Cust Item ID:

**Customer:** 

Reference:

Approvals:

Process Plan:

Date:

Tooling: SPC (Y/N):

Date: Date: Start



Sequence ID/ Work Center ID

**Quality Control** 

Operation Description

QC3- Inspect Part Finish

Memo

Set Up/ Run Hours

0.00

0.00

Tool ID

Tool # Plan

Accept Qty Code

Reject Otv

Run

Reject Number

Insp. Stamp

170

Packaging Packaging

Packaging

Memo

0.00

0.00

Identify and Stock in kanban rack

Location: L(3

10-12-01

180

**Quality Control** 

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

	<u> </u>								
W/O:			WC	ORK ORDER CHANG	ES				<b>,</b>
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DQ	<b>A:</b>	Date: _	
	Res	solution:	Dispositio	n:	_ QA: N/C CI	osed:		Date: _	
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DATE	STEP	Description of NC		· · · · · · · · · · · · · · · · · · ·	ion B	Verific		Approval	Approval
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Control or websited the March									

# Picklist Print

Wednesday, November 17, 2010 10:25:35 AM

Work Order ID: 63861

Parent Item:

D212-664-101TRN

Parent Item Name. Crosstube Turning Detail





Start Date: 11/17/2010

Required Date: 11/30/2010

Page 1

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:A 08-03-06 new issue DD verified by:ec IPP Rev B 08.04.02 removed Polish EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6005-128		Manufactured	No			120	Each	32.0000	1	1			
										12	10	112/	02

Crosstube Material

Loc Qty	Loc Code	•
. 32		
, 5		
27		
	. 32	32 5

W/O:			WC	RK ORDER CHANG	GES					2
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	Reso	olution:							Date: <u>&lt;</u>	
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DATE	STEP	Description of NC	Initial	Corrective Action Sec Action Description	ction B	gn &	Verific		Approval	Approval
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NOTE: Date & initial, all entries

133

DART AEROSPACE LTD	Work Order:	43841
Description: Crosstube Assembly (205/212/412 High Fwd)	Part Number:	D212-664-141
Inspection Dwg: D212-664-141 Rev: D		Page 1 of 1

#### FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

	spection Sheet awing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
	0.200	+/-0.010	.205			Vesh	Z1-5
	R0.063	+/-0.010	R.000			RG	
	2.740	+0.005/-0.000	2.736			M'c	CNC-04
	5.097	+/-0.030	5-09.7			Vein	11-5
<b> </b> *	2.304	+0.005/-0.000	2-300			Mic	CNC-04
	2.340	+0.005/-0.000	2.342				
EA	2 398	+0.005/-0.000	2,401				
SIDE	2.448	+0.005/-0.000	2.450				
"	2.498	+0.005/-0.000	2.000				
	2.549	+0.005/-0.000	2356				
	2.599	+0.005/-0.000	2.604				
	2.671	+0.005/-0.000	2-675				
	2.701	+0.005/-0.000	2,205				l
	0.200	+/-0.010	-205			Mre	CUL-04
	R0.063	+/-0.010	12,023			R.G.	
	2.740	+0.005/-0.000	2.240			Mic	CNC .04
	5.097	+/-0.030	5,097			Vesa	2-42
	2.304	+0.005/-0.000	2.307			Mic	CNC-OY
m	2.340	+0.005/-0.000	2349				
m.	2.398	+0.005/-0.000	2.405				
SIDE	2.448	+0.005/-0.000	2.453				
	2.498	+0.005/-0.000	2.503				
	2.549	+0.005/-0.000	2.559			<u>.</u>	
	2.599	+0.005/-0.000	2.606				
1	2 671	+0.005/-0.000	2.676				1
	2.701	+0.005/-0.000	2.705			<i>J</i>	J
	126.514	+/-0.020	126.50			iappe	10-118

Measured by: Audited by: Prototype Approval: N/A

Date: 10/12/02 Date: 10/12.7 Date: N/A

Date	Change	Revised by	Approved
05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	
07.05.28	Dwg Rev updated	KJ/JLM ,	
10.02.02	Dimension 126.514 was 126.51	KJ 4	
(	05.04.27 06.03.15 07.05.28	05.04.27 New Issue (P/O D412-664-101) 06.03.15 Tolerance revised for 5.097 per Dwg Rev update 07.05.28 Dwg Rev updated	05.04.27         New Issue         (P/O D412-664-101)         KJ/JLM           06.03.15         Tolerance revised for 5.097 per Dwg Rev update         KJ/JLM           07.05.28         Dwg Rev updated         KJ/JLM

Dart A	erospace	Ltd
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W/O:			W	ORK ORDER CHANG	ES					
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Part No	:	PAR #:	Fault Cate	egory:	_ NCF	R: Yes	No <b>DQ</b>	A:	Date: _	
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Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		Х	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

**GENERAL NOTES:** 

1) MATERIAL: MANUFACTURED FROM D6005-128 FINISHED LENGTH = 126.514±0.020

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART OSI 005 4 2 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE NOTED.

BREAK SHARP EDGES: 0.005 TO 0.010 MAX.

- IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664) D212-664-141B = 33.6 lbs (PER IIN-D212-664)

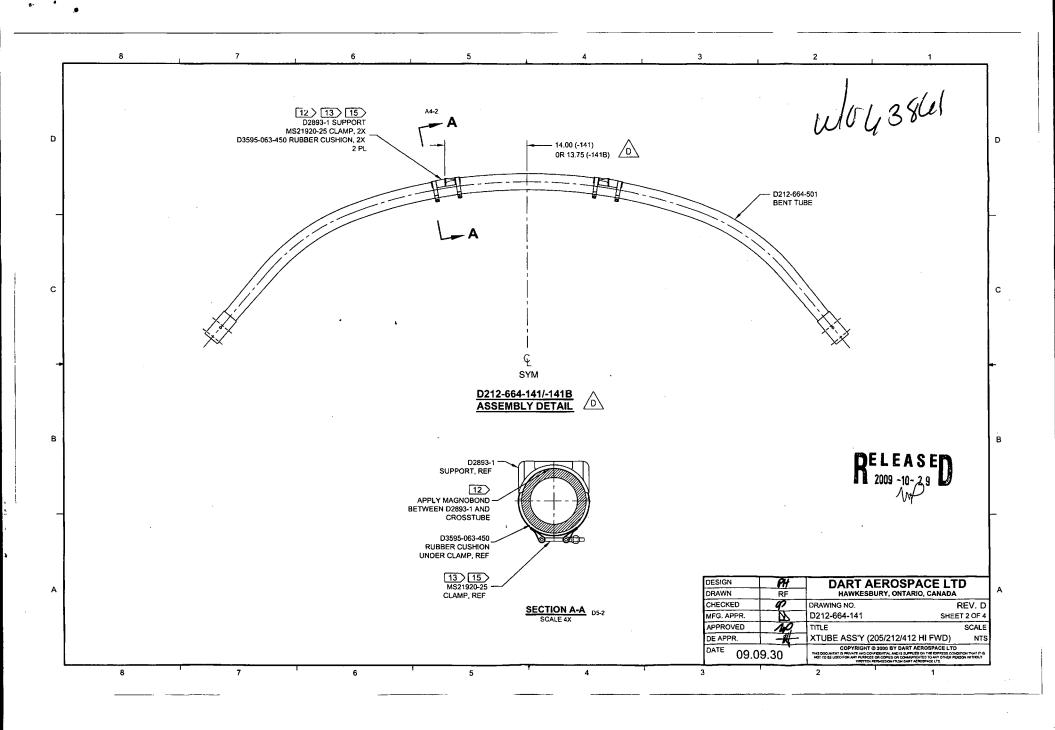
8) PART IS SYMMETRIC ABOUT CENTERLINE.

- RUN CUTTER OFF PART, BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03° TO 0.06° THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS2 1920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR \* DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

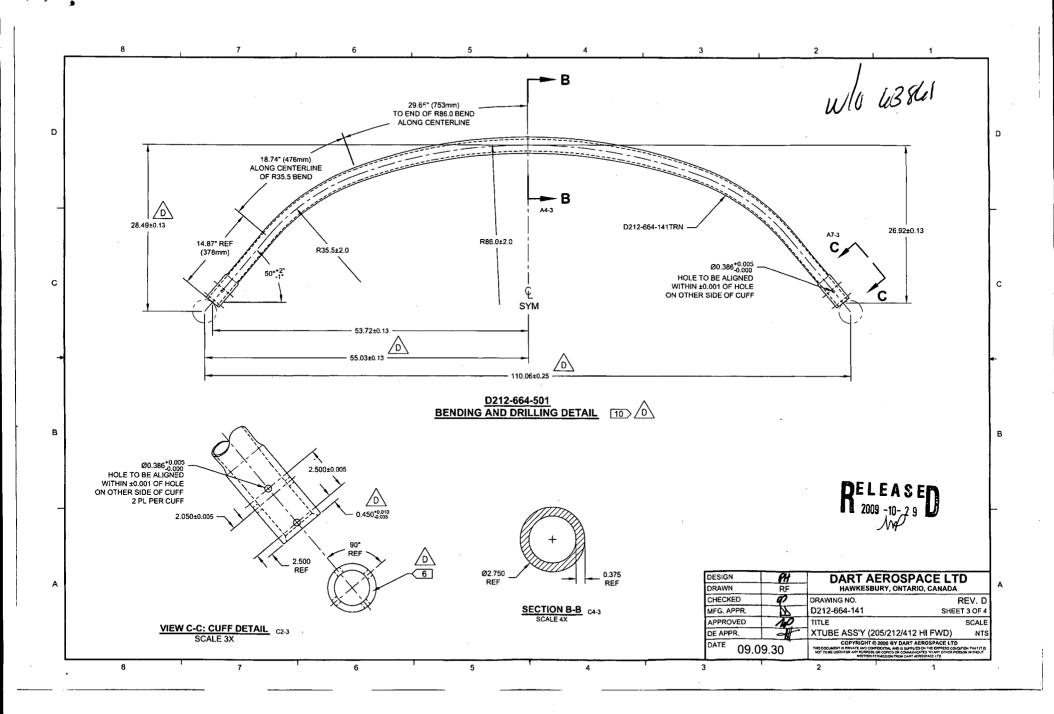
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D	REORG. TO CUR REMOVI & B6-3);	ANIZED VIEWS RENT STANDA ED REF & ADD RELOCATED TURNING DE1	ENERAL NOTES/PART LIST; 5 AND REFORMATTED DRAWING RDS; ADD -141B (ZN B4-2, D4-2); 1 TOLERANCES (ZN B4-3, C6-3, C8-3 FLAG #6 PER PAR 08-046 (ZN A5-3); FAIL & UPDATED TOLERANCE TO	RF	09.09.30
С			SION STRIP; ADD MAGNOBOND /ERSE CLAMPS	PH	07.03.08
В	ADD H	OLES FOR CO JBES	PH	05.02.04	
Α	NEW IS	SUE		PH	00.12.12
REV.			DESCRIPTION	BY	DATE
DESIGN		PH	DART AEROSP	ACE	LTD
DRAWN		RF	HAWKESBURY, ONTAR	O, CAN	ADA
CHECK	ED.	P	DRAWING NO.		REV. D
MFG. AF	PPR.	N	D212-664-141	:	SHEET 1 OF 4
APPRO	√ED	10	TITLE		SCALE
DE APP	R.		XTUBE ASS'Y (205/212/412	HI FW	D) NTS
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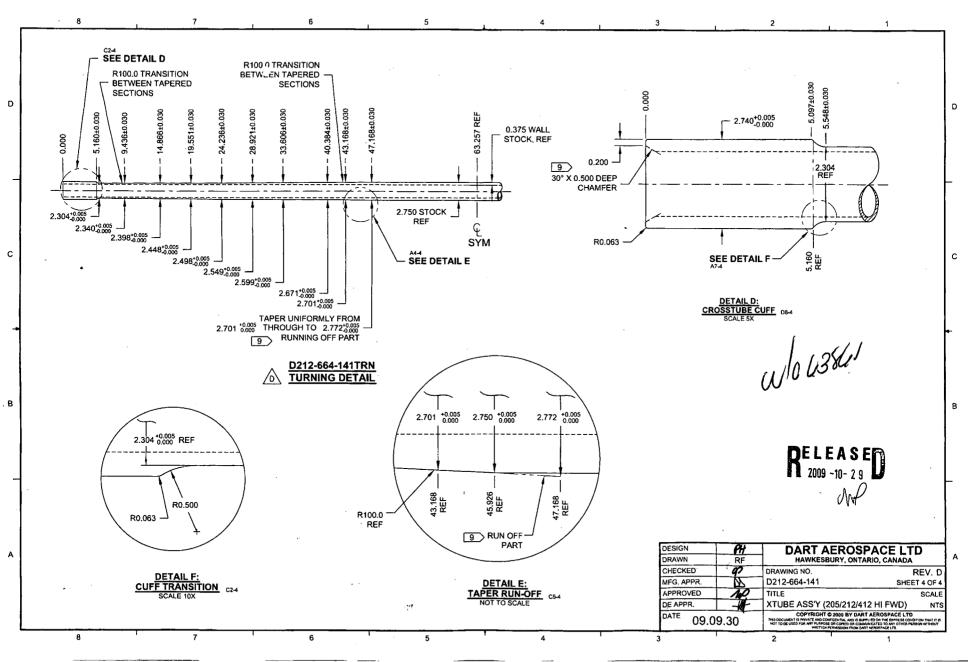
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